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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,083	01/14/2002	Paul Harry Abbott	GB920010052US1	6326

29683 7590 09/26/2007

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EXAMINER	
WILLIAMS, JEFFERY L	

ART UNIT	PAPER NUMBER
2137	

MAIL DATE	DELIVERY MODE
09/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/050,083	ABBOTT ET AL.	
	Examiner	Art Unit	
	Jeffery Williams	2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5,7,8,11 and 13-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5,7,8,11,13-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1, 2, 5, 7, 8, 11, 13 – 23 are pending.

All objections and rejections not set forth below have been withdrawn.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claims *1,2,5,7,8,11, 13-23* are rejected under 35 U.S.C. 103(a) as being unpatentable over Shear et al. (Shear), "Systems and Methods Using Cryptography to Protect Secure Computing Environments", U.S. Patent 6,157,721 in view of Bodrov, "System and Method of Verifying The Authenticity of Dynamically Connectable Executable Images", U.S. Patent 6,802,006.

Regarding claim 1, Shear discloses:

a primary library file, the primary library file having a digital signature (Shear, 1:26-28; 2:46-3:3; 4:21-67; Herein, Shear discloses system protection by verifying the digital signatures of basic executables – thus at least one executable module or "primary library file" – of a software installation, for example a virtual machine installation).

a loader program that obtains a digital signature key and further loads the primary library file (Shear, fig. 1:61; 5:1-5; 6:6-11; fig. 3 – Herein, Shear discloses a device comprising a programmed execution environment that loads code - thus a "loader" program – for loading and executing software instructions, also see "load module" - "an executable unit of code loaded into memory by the loader" – Microsoft Press Computer Dictionary, 3rd ed., pg. 287); *wherein, if a public key cannot be obtained via a virtual machine provider, the digital signature key is a hidden public key internal to the loader program and, if a public key can be obtained via the virtual machine provider, the digital signature key is the public key obtained via the virtual machine provider* (Shear, 13:65-14:5; 5:1-5; Herein, Shear discloses both obtaining a hidden public key and obtaining a certificate from the software provider).

Shear discloses that an execution environment may execute a plurality of software modules, having digital signatures, of which are verified for authenticity by the programmed execution environment (Shear, 4:1-60), and which may interact with other installed software modules (Shear,3:24-35). Shear however does not explicitly disclose that one installed software module "interacts" other installed software modules via a first module "referencing" second modules from the plurality of modules.

Bodrov discloses that software modules, such as digitally signed DLL's defining a software installation, interact via one module referencing another module to be loaded and verified by the loader program (Bodrov, fig. 2; 3:12-24).

It would have been obvious to one of ordinary skill in the art to employ the method of Bodrov for interaction between software modules of a software installation

within the system of Shear. This would have been obvious, because one of ordinary skill in the art would have been motivated to utilize a practical way for software modules to interact.

wherein the loader program is verifes and selectively loads the primary library file by comparing the obtained digital signature key with the digital signature of the primary library file, the primary library file subsequently verifying and selectively loading the plurality of secondary files by calling the loader program to compare the obtained digital signature key with the digital signature of each of the plurality of secondary files, wherein the computer software is a virtual machine installation (Shear, fig. 3; 6:5-15; Bodrov, fig. 1).

Regarding claim 2, the combination of Shear and Bodrov enables a plurality of software modules (i.e: DLL files), wherein at least one module references a plurality of secondary modules, and wherein all modules are loaded and verified (See above rejection). However, the combination does not disclose that a referenced secondary module may reference another, or 3rd, module. However, it was well known to those of ordinary skill in the art that a referenced module (i.e. DLL), may reference another module (i.e. DLL).

Regarding claim 5, the combination of Shear and Bodrov enables:

at least one administrator-configurable file (Shear, fig. 1:52,64; 3:32-35; 4:38,39 – the combination disclose files that are configured by administrators).

the digital signature key comprising a number of keys including a private key provided by an administrator (Shear, fig. 7, 8)

wherein the loader program verifies the digital signature of the at least one administrator-configurable file using the private key (see above rejections – all files are verified).

Regarding claim 14, the combination of Shear and Bodrov enables:

the virtual machine provider is accessed through an internet site to provide the public key (Shear, fig. 1; Abstract; 2:33-40; 3:10-15, 21-35; 5:3-5). The combination teaches obtaining certificate-bearing code from the virtual machine provider via the Internet. Therefore the combination enables the provision of the public key by such means (for definition of a certificate, see Microsoft Computer Dictionary, pg. 93).

Regarding claim 16, the combination of Shear and Bodrov enables:

wherein the primary library file is a virtual machine dynamic link library file (Shear, 2:54-3:3; Bodrov, fig. 1)

Regarding claim 18, the combination of Shear and Bodrov enables:

wherein the loader program is a third-party application that initiates the virtual machine installation (Shear, fig. 1:61; fig. 3; Bodrov, fig. 1:95).

Regarding claim 19, the combination of Shear and Bodrov enables:

wherein the loader program is a virtual machine launcher that initiates the virtual machine installation (Shear, 2:54-3:3; 4:36-40; Bodrov, fig. 1).

Regarding claims 7, 8, 11, 13, 15, 17, 20, and 21, they are method claims corresponding to the above rejected claims and contain essentially similar limitations, and they are rejected, at least, for the same reasons. Furthermore, the combination enables "launching a loader program" (Shear, fig. 3; Bodrov, fig. 1).

Regarding claims 22 and 23, they are system claims corresponding to the above rejected claims and contain essentially similar limitations, and they are rejected, at least, for the same reasons.

Rsponse to Arguments

Applicant's arguments filed 2/9/07 have been fully considered but they are not persuasive.

Applicant argues or asserts primarily that:

(i) *Shear, in Figure 3, does not show a loader program that verifies and selectively loads the primary library file nor the primary library file subsequently verifying and selectively loading a plurality of files...*

Bodrov does not disclose or suggest "the loader program verifies and selectively loads the primary library file" or "the primary library file subsequently verifying and selectively loading the plurality of secondary files." (Remarks, pg. 10, par. 1; pg. 11, par. 1)

In response, the examiner respectfully notes that prior art demonstrates a loader program that verifies and selectively loads. Shear discloses the loading and execution of a load module (for example, see fig. 3 – the examiner asserts that the man inside the computer who verifies and loads the load module is symbolic. As evidenced by the Microsoft Press Computer Dictionary , a "loader program" is what loads the load module). Furthermore, Bodrov is completely in harmony with Shear. Bodrov illustrates, without symbolism, the term "program loader" (for example, see fig. 2).

Additionally, the examiner points out that the *combination* of Shear and Bodrov shows a "*primary library file subsequently verifying and selectively loading a plurality of files* [***by calling the loader program to...***" - as per claim recitation] (Shear, fig. 3; 6:5-15; Bodrov, fig. 1). In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

(ii) Claims 14 and 15 recite "the virtual machine provider is accessed through an internet site to provide the public key." Shear, in the abstract, Figure 1, or elsewhere, does not disclose this limitation. (Remarks, pg. 12, par. 5)

In response, the examiner respectfully notes the claims 14 and 15 essentially comprise descriptive language. A recitation that does not require performing an access of a key, but is instead a characterization of a non required condition "if a public key is available from an internet site" or "if a public key can be obtained via the virtual...".

However, it is respectfully noted that, were such descriptive language to comprise a claim limitation, the prior art is shown to enable the "Virtual machine provider" to be accessed to provide a public key via an internet.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See Notice of References Cited.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery Williams whose telephone number is (571) 272-7965. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

J. Williams
AU: 2137

JW

EMMANUEL L. MOISE
SUPERVISORY PATENT EXAMINER